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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/601,567

06/24/2003

Hiroshi Maeda

0649-0894P

8261

2292

7590

10/19/2004

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EXAMINER

SOWARD, IDA M

ART UNIT

PAPER NUMBER

2822

DATE MAILED: 10/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/601,567

**Applicant(s)**

MAEDA ET AL.

**Examiner**

Ida M Soward

**Art Unit**

2822

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 23 August 2004.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.  
4a) Of the above claim(s) 13-19 is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1,2,4,7 and 10 is/are rejected.  
7) ☐ Claim(s) 3,5,6,8,9,11 and 12 is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 04 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 9-24-03.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

This Office Action is in response to the election filed August 23, 2004.

#### ***Priority***

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

#### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is not understood whether there is one solid-state imaging element or more than one solid-state imaging element on the semiconductor substrate because claim 1 states plural elements and claim 2 states a singular element.

#### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 1-2, 4, 7 and 10 are rejected under 35 U.S.C. 102(a) as being anticipated by Fumio (JP 2002329580).

In regard to claim 1 and as best understood, Fumio teaches a solid-state imaging device comprising: a semiconductor substrate 1 on which solid-state imaging elements 102 are formed; a translucent member 201 provided onto a surface of the semiconductor substrate 1 such that spaces are provided to be opposed to light receiving areas of the solid-state imaging devices, and a through-hole which are formed in the semiconductor substrate 1, wherein the solid-state imaging device is electrically connected to an external contact terminal 2 by way of the through-hole (Figure 13, pages 2-4, paragraphs [0015]-[0034]) (See Figures 1-12 for reference numbers).

In regard to claim 2 and as best understood, Fumio teaches the external contact terminal 2 formed on a surface of the semiconductor substrate 1, the surface being opposed to another surface thereof where the solid-state imaging element 102 is formed (Figure 13, pages 2-4, paragraphs [0015]-[0034]) (See Figures 1-12 for reference numbers).

In regard to claim 4 as it depends on claims 1 or 2, Fumio teaches the translucent member 201 connected to the semiconductor substrate 1 via spacers 3 (Figure 13, pages 2-4, paragraphs [0015]-[0034]) (See Figures 1-12 for reference numbers).

In regard to claim 7, Fumio teaches the spacers 3 formed of resin material (Figure 13, pages 2-4, paragraphs [0015]-[0034]) (See Figures 1-12 for reference numbers).

In regard to claim 10, Fumio teaches the through-hole is filled with a conductive material 2b in an inner wall thereof with an insulating film 3 being formed in-between (Figure 13, pages 2-4, paragraphs [0015]-[0034]) (See Figures 1-12 for reference numbers).

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***Allowable Subject Matter***

Claim 3, 4 (as it depends on claim 3), 5-6, 7 (as it depends on claim 4 which depends on claim 3), 8-9 and 11-12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 3, 4 (as it depends on claim 3), 5-6, 7 (as it depends on claim 4 which depends on claim 3), 8-9 and 11-12 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following patents are cited to further show the state of the art with respect to solid-state imaging devices:

Jang et al. (US 6,218,784 B1)

Miyake et al. (US 2002/0140836 A1)

Pankratz et al. (3,765,747)

Park et al. (US 6,784,612 B2)

Wada (US 2002/0019069 A1)

Wu et al. (5,634,835)

Yonehara et al. (5,827,755).

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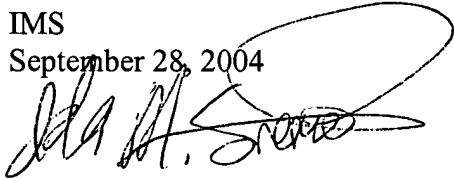
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ida M Soward whose telephone number is 571-272-1845. The examiner can normally be reached on Monday - Thursday, 6:30 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amir Zarabian can be reached on 571-272-1852. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

IMS

September 28, 2004



A.L. 2822